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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,933	02/17/2004	Hsiao Yi Chang	251309-1011	1915
24504	7590	02/24/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			VERBITSKY, GAIL KAPLAN	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/780,933

Applicant(s)

CHANG ET AL.

Examiner

Gail Verbitsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/17/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 rejected under 35 U.S.C. 102(b) as being anticipated by Mueller et al. (U.S. 3832669) [hereinafter Mueller].

Mueller discloses in Fig. 10 a device/ temperature probe comprising a hollow tip member, the hollow tip member comprises an outer wall (sheath) 134 covered with a high thermal conductivity foil/ thermal conductivity metal (thermal contact surface) 110, an inner wall 132 inside the outer wall 134, the inner wall 132 made of plastic of low thermal conductivity (thermally insulative material) (col. 5, lines 3-4), a hollow cavity surrounded by the inner wall 132, the hollow cavity is filled out with thermally insulative air 133. The device also comprises a thermal sensor (thermistor) 112 disposed within the hollow tip for sensing temperature of the thermal contact surface 110 of the outer wall, a set of wires 113, 114 connected to the thermal sensor 112.

### ***Claim Rejections - 35 USC § 103***

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (U.S. 6676290) in view of Mueller.

Lu discloses in Figs. 2-8 a an integrated and inseparable body member including a probe body and a hollow tip member, as shown in Fig. 2, the hollow tip member is inseparable/ secured to the probe member. The hollow tip member comprises an outer wall 51 made of metal (good thermal conductivity), a thermal insulator plug 4 constituting an inner wall with an insulation (insulating layer) on its inner and outer walls, the inner wall 4 filling out the hollow cavity such that a space left, as shown in Fig. 6, between the inner wall and the outer wall, allows a set of transmission wires 2 connect to a thermal sensor 1 which sensing a temperature of a thermal contacting surface (outer wall contacting with a patient) for passing a temperature signal.

For claim 9: The sensor is mounted to the inner surface of the outer wall with conductive glue.

For claim 8: Lu states that the positioning the wires between the outer wall and inner wall and close to the outer wall allows a shorter time for reaching a thermal equilibrium.

For claims 6: The wires are attached (bonded) to the inner side of the outer wall (col. 3, lines 2-3).

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For claims 10-11: The inner wall 4 comprises a hole (groove) for allowing the transmission wires to pass through the hollow cavity. Therefore, the transmission wires are mounted in the hollow cavity in the hole/ groove (near) the inner wall.

Lu does not explicitly teach that the device has a display, and that the space between the inner wall and the outer wall is a thermally insulating space, as stated in claim 1, with the remaining limitations of claims 1-3, 5-6, 8-11.

Mueller discloses in Fig. 10 a device/ temperature probe comprising a hollow tip member, the hollow tip member comprises an outer wall (sheath) 134 covered with a high thermal conductivity foil/ thermal conductivity metal (thermal contact surface) 110, an inner wall 132 inside the outer wall 134, the inner wall 132 made of plastic of low thermal conductivity (thermally insulative material) (col. 5, lines 3-4), a hollow cavity surrounded by the inner wall 132, the hollow cavity is filled out with thermally insulative air 133. The device also comprises a thermal sensor (thermistor) 112 disposed within the hollow tip for sensing temperature of the thermal contact surface 110 of the outer wall, a set of wires 113, 114 connected to the thermal sensor 112.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu, so as to have a hollow space filled out with a thermally insulative air, as taught by Mueller, in order minimize heat conduction between the wires and other structures of the device, so as to provide more accuracy of the measurements by not allowing heat loss within the device.

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5. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (U.S. 6676290) in view of Zaragoza et al. (U.S. 5133606) [hereinafter Zaragoza] and Mueller.

Lu discloses in Figs. 2-8 a an integrated and inseparable body member including a probe body and a hollow tip member, as shown in Fig. 2, the hollow tip member is inseparable/ secured to the probe member. The hollow tip member comprises an outer wall 51 made of metal (good thermal conductivity), a thermal insulator plug 4 constituting an inner wall and filling out the hollow cavity such that leaving some space, as shown in Fig. 6, between the inner wall and the outer wall, the space allowing a set of transmission wires 2 connecting to a thermal sensor 1 which sensing a temperature of a thermal contacting surface (outer wall contacting with a patient) for passing a temperature signal.

For claim 13: The sensor is mounted to the inner surface of the outer wall with conductive glue.

For claims 10-11: The inner wall 4 comprises a hole (grove) for allowing the transmission wires to pass though the hollow cavity. Therefore, the transmission wires are mounted in the hollow cavity in the hole/ groove (near) the inner wall.

Lu does not explicitly teach that the device has a display, and that the space between the inner wall and the outer wall is a thermally insulating space, as stated in claim 12.

Zaragoza discloses in Fig. 2 a device in the field of applicant's endeavor wherein; the device comprises a display portion having a temperature indicating display.

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There is a circuitry connected to transmission wires and a switch to turn the device on/off.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu, so as to have a display portion connected to a circuit, as taught by Zaragoza, in order to provide the operator with a visual data, as very well known in the art.

Mueller discloses in Fig. 10 a device/ temperature probe in the field of applicant's endeavor comprising a hollow tip member, the hollow tip member comprises an outer wall (sheath) 134 covered with a high thermal conductivity foil (thermal contact surface) 110, an inner wall 132 inside the outer wall 134, the inner wall 132 made of plastic of low thermal conductivity (thermally insulative material) (col. 5, lines 3-4), a hollow cavity surrounded by the inner wall 132, the hollow cavity is filled out with thermally insulative air 133. The device also comprises a thermal sensor (thermistor) 112 disposed within the hollow tip for sensing temperature of the thermal contact surface 110 of the outer wall, a set of wires 113, 114 connected to the thermal sensor 112.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu, so as to have a hollow space filled out with a thermally insulative air, as taught by Mueller, in order minimize heat conduction between the wires and other structures of the device, so as to provide more accuracy of the measurements by not allowing heat loss within the device.

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6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Hsieh (U.S. 6854880) and Mueller.

Lu discloses in Figs. 2-8 a an integrated and inseparable body member including a probe body and a hollow tip member, as shown in Fig. 2, the hollow tip member is inseparable/ secured to the probe member. The hollow tip member comprises an outer wall 51 made of metal (good thermal conductivity), a thermal insulator plug 4 constituting an inner wall and filling out the hollow cavity such that leaving some space, as shown in Fig. 6, between the inner wall and the outer wall, the space allowing a set of transmission wires 2 connecting to a thermal sensor 1 which sensing a temperature of a thermal contacting surface (outer wall contacting with a patient) for passing a temperature signal.

Lu does not explicitly teach that the device has a display, and that the space between the inner wall, that the outer wall is a thermally insulating space, and that the device is separable, as stated in claim 16.

Hsieh discloses in fig. 8 a device in the field of applicant's endeavor wherein; a probe portion 30 is separable from a display portion having a display 21.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu, so as to make a probe portion separable from a display portion, as taught by Hsieh, in order to make the portions replaceable, should one of them is damaged.

Mueller discloses in Fig. 10 a device/ temperature probe in the field of applicant's endeavor comprising a hollow tip member, the hollow tip member comprises



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an outer wall (sheath) 134 covered with a high thermal conductivity foil (thermal contact surface) 110, an inner wall 132 inside the outer wall 134, the inner wall 132 made of plastic of low thermal conductivity (thermally insulative material) (col. 5, lines 3-4), a hollow cavity surrounded by the inner wall 132, the hollow cavity is filled out with thermally insulative air 133. The device also comprises a thermal sensor (thermistor) 112 disposed within the hollow tip for sensing temperature of the thermal contact surface 110 of the outer wall, a set of wires 113, 114 connected to the thermal sensor 112.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu, so as to have a hollow space filled out with a thermally insulative air, as taught by Mueller, in order minimize heat conduction between the wires and other structures of the device, so as to provide more accuracy of the measurements by not allowing heat loss within the device.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu and Mueller, as applied to claims 1-6, 8-11 above, and further in view of Martin (U.S. 4603026).

Lu and Mueller disclose the device as stated above.

They do not explicitly teach that the wires can be of spiral form, as stated in claim 8.

Martin discloses in Fig. 2 a device wherein the wires are of a spiral form.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Lu and Mueller, so as to have spiral wires, as taught by Martin, in order to minimize the length of the device.

### ***Information Disclosure Statement***

8. The information disclosure statement filed on February 17, 2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not provide non-patent (other documents) listed in the IDS. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

Any inquiry concerning this communication should be directed to the Examiner Verbitsky who can be reached at (571) 272-2253 Monday through Friday 8:00 to 4:00 ET.

GKV

Gail Verbitsky

Primary Patent Examiner, TC 2800



February 17, 2005